CLAIMS

1. System for the simulation and predictive analysis of the evolution of a region of the scalp of a subject over time, characterized in that it comprises a means of observation of the said hair region able to output digital observation data, a first digital data processing means capable of classifying elementary parts of the said region on the basis of the observation data, a second digital data processing means capable of simulating the evolution of the said hair region as a function of the data emanating from the first digital data processing means, and a means of displaying the data emanating from the second digital data processing means, the data output by the first processing means comprising at least one classification according to the duration of the phases of the hair cycle.

2. System according to Claim 1, characterized in that the observation data, output by the first processing means, comprise the surface density of hairs, the proportion A of hairs in the anagen phase, the proportion T of hairs in the telogen phase, the proportion D of disappeared hairs, the proportion Dd of hairs in the dead phase and the individual rate of growth of the hairs.

3. System according to Claim 2, characterized in that the second processing means comprises a means for applying to each observed hair a duration of continuation in its prevailing phase, on the basis of a distribution of the phase durations and of a random number.

4. System according to Claim 2 or 3, characterized in that the second processing means comprises a means for estimating the number of cycles n_c performed by an observed hair, and for comparing it with a predetermined

maximum number of cycles N_k, a cycle being defined by the successive passage through the three states, anagen, telogen and disappeared.

5. System according to any one of Claims 2 to 4, characterized in that the second processing means comprises a matrix of probabilities of transition from one phase to another phase.

6. System according to any one of Claims 2 to 4, characterized in that the second processing means comprises a means for allocating a given duration of phase to a hair.

7. System according to Claim 6, characterized in that the means for allocating a given duration of phase to a hair comprises a random number generator and a means for comparing the said random number with aggregate probabilities of phase transition.

8. System according to any one of Claims 2 to 7, characterized in that the second processing means comprises a matrix representative of the influence of data relating to neighbouring hairs on the transition from one phase to another phase.

9. System according to any one of Claims 2 to 8, characterized in that the second processing means comprises a table representative of the evolution of the mean values of duration of the anagen, telogen and disappearance phases.

10. System according to any one of the preceding claims, characterized in that it comprises a means for performing a third processing for simulating the evolution of the entire head of hair of the subject on the basis of the data emanating from the second processing means.

11. System according to Claim 10, characterized in that it comprises a means for associating data relating to the evolution of other sites with the data emanating from the third processing means.

12. Process for the simulation and predictive analysis of the evolution of a region of the scalp of a subject over time, in which:

- the said hair region is observed so as to provide observation data,

- a first digital processing of the observation data is performed so as to classify elementary parts of the said region,

- a second digital processing is performed so as to perform a simulation of the temporal evolution of the said hair region as a function of the data emanating from the first digital processing means, and

- data emanating from the second digital processing are displayed, the data output by the first processing means comprising at least one classification according to the duration of the phases of the hair cycle.

13. Process according to Claim 12, in which at least two observations are performed separated by a first given duration, each observation being preceded by a step of shaving the said hair region, the shaving step being separated from the corresponding observation by a second given duration, in such a way that an evolution of the said hair region can be noted, the observation data comprising the surface density of hairs, the proportion A of hairs in the anagen phase, the proportion T of hairs in the telogen phase, and the individual rate of growth of the hairs.

14. Process according to Claim 13, in which, on the basis of the observation data, the hair coverage produced per unit time and area is calculated.

15. Process according to any one of Claims 12 to 14, in which the second digital processing takes into account the ratios of the durations of the anagen and telogen phases.

16. Process according to any one of Claims 12 to 15, in which a third digital processing is performed so as to perform a simulation of the temporal evolution of the entire head of hair of the subject on the basis of the data emanating from the second digital processing and the data emanating from the third digital processing are displayed by flat projection.

17. Process according to Claim 16, in which, data from simulating the evolution of the face are associated with the data emanating from the third digital processing and the associated data are displayed.